TRAFFIC ENGINEERING

A News Letter

Published by the

INSTITUTE OF TRAFFIC ENGINEERS

175 Fifth Avenue, New York, N. Y.

Edited by the Library Committee LAWRENCE S. TUTTLE, *Chairman*

VOL. VI JUNE 1935 NO. 2

VALUE OF A HIGHWAY PLAN AND PROGRAM

Our cities have grown by accretion. Population, spread out along old roads in a finger-like development, clogged the arteries. With the coming of the automobile new suburban communities were formed, often built up about the old unwidened, narrow rights of way. The lessons learned during the first two decades of the century have resulted since the war in more attention being directed to planning streets and highways in relation to a city-wide plan, which has regard for public buildings and parks, location of business centers, and types of neighborhood, and must be adapted to topography.

A highway program is a well-considered schedule for development physically to meet a community's needs, having in mind the economical use of whatever funds may be available.

Washington began with Major L'Enfant's plan, which covered about one tenth of the original 10-mile square. More than half the planned area was conveyed to the United States for streets and alleys. The system of streets laid out was a varied rectangular scheme, overlaid by a system of diagonals connecting important sites and intersections designated for future buildings and squares. The street widths ranged up to 160 feet.

After the Civil War the city's population doubled, and extensive areas outside the original city plan were subdivided without any control.

In 1893 and 1898 Congress established a Permanent System of Highways Plan for all the remaining undeveloped portion of the District, providing that all subdivisions thereafter recorded must conform to the plan. The plan was made to follow as nearly as possible the original plan. Streets were established at widths from 90 to 160 feet. Later provision was made permitting changes in the plan whenever required to meet new conditions, to provide for institutional development, or to conform to topography, etc. Such changes are made by the District Commissioners after public hear-

ings, and forwarded to the National Capital Park and Planning Commission for approval.

The value of the plan has been proved. Most of the important radials have been extended with adequate widths to adjoining Maryland, circumferential routes have been provided, and intervening sections subdivided for residential use. Most subdividers dedicate highway plan streets, and only occasionally is condemnation necessary. Even then the law provides that the benefits assessed may equal the damages. In 1926 the National Capital Park and Planning Commission was created and charged with the duty of developing and maintaining a comprehensive and coordinated plan for the Capital and its environs. In order to make certain that proper widths had been indicated on the plan and in order that construction and widening programs accomplish the greatest benefit and be adapted to needs, a major thoroughfare plan was evolved, designating certain routes to be improved for the movement of general traffic. The plan was coordinated with such elements as zoning, street car and bus routes, centers of traffic origin and destination, location of public buildings, markets, terminals, and educational centers, as well as routes for traffic through the city, for which several by-passes were proposed. It included proposals for new routes and connections and for new bridges and parkway routes in and over Rock Creek Park. These proposals must be approved by Congress, but the plan has served to focus attention on weaknesses in the existing highway system.

To improve major thoroughfares, standard street cross-sections have been adopted and are followed when widening is done. The least important were established at 40-foot pavements, and the more important 56 to 60, and as wide as 106 feet (for Pennsylvania Avenue). New residential streets have a 30-foot pavement.

The adoption of a definite, coordinated program naturally followed the long and satisfactory experience with an official highway plan. During the ten years after the War, the rapid growth of suburban areas and a 200 percent increase in automobiles made urgent the need for a program. In 1929 the Highway Department formulated a five-year program which became the guide for Congressional appropriations. Most of the major projects were executed in this period, and in 1934 the Commissioners approved a new six-year program, which will probably be revised six years in advance.

To coordinate underground utility work, the Department of Highways sends out notices months in advance of highway construction and improvement. This reduces to a minimum the cutting of new pavements, saves expense to the utilities and the consumers, and minimizes inconvenience to the public.

The present emergency has emphasized the value of the highway plan and program. When the National Recovery Act made unex-

pectedly available nearly $2,000,000, items in the advance program were extracted overnight, and the first work was under contract within six weeks after the Act was passed. This has been done twice since.

The need of planning the highway system in relation to the systems of adjoining jurisdictions has been met by the Planning Commission by formulating a regional plan covering an area over 20 miles from the Capital. The Bureau of Public Roads cooperated with the adjoining jurisdictions in a regional traffic survey in 1932, and the findings are now under study, especially in relation to such major proposals as a Washington-Baltimore Parkway, and a north and south by-pass around Washington. (Abstracted from a paper presented by John Nolen, Jr., at the annual Convention and Highway Exhibit of the American Roadbuilder's Association, Washington, D. C., January 23, 1935.)

SIGNALS FOR DRAW BRIDGES

The following inquiry has been received by Burton W. Marsh, Director, Safety and Traffic Engineering, American Automobile Association, Washington, D. C.:

> "Can you advise me as to what seems to be the most efficient type of signal use at draw bridges?"

Mr. Marsh would greatly appreciate receiving any information on this point from Members of the Institute.

1934 PROCEEDINGS

Mr. Hawley S. Simpson, Secretary-Treasurer of the Institute, writes to say that credit for the excellent job done in preparing the 1934 Proceedings for publication is due largely to a small group.

William B. Powell was Chairman of the Editing Committee and did a great deal of preliminary work. The final editing and retyping was done under Burton Marsh's direction with the assistance of Peter Stupka. The actual typing was done almost entirely by Mrs. M. Melander, Mr. Marsh's secretary.

REPORT OF NEW JERSEY COMMISSIONER OF MOTOR VEHICLES

Arnold H. Vey, Traffic Engineer, State of New Jersey, has forwarded a copy of the 29th Annual Report of the State Commissioner of Motor Vehicles. The report is very interesting, containing 123 pages of text, graphs, and tables, and is well illustrated. An abstract of the report will be published in the July issue of Traffic Digest.

RIBBON DEVELOPMENTS

The (British) Government has at last introduced its Bill for checking "ribbon development" ..... There can seldom have been a legislative proposal for which there has been such a wide and insistent demand; ribbon development by the conversion of roads into streets is recognized on all sides as being destructive to the amenities of the countryside and prejudicial to the building up of community life, while it tends to impede traffic and multiply accidents.

The bill draws a distinction between "classified" roads, which form about a quarter of the roads of the country, and the remaining three-quarters. In the case of classified roads a total width of 440 feet is to be sterilized, that is to say, no building must be erected within 220 feet of the middle of the road without the consent of the highway authority, nor must any new connecting road be formed without the like consent. Similar restrictions are applied to unclassified roads, but there the width of the strip varies from 60 to 160 feet according to the decision of the highway authority, which is empowered to adopt any one of six standard widths between those limits according to its view of the local requirements.

The above provisions are made in the interests of traffic "with a view to providing for adequate and safe passage for traffic along any road" - while powers of compulsory purchase of land are given to highway authorities, not only for the improvement and construction of roads, but also for preserving the amenities of the locality and of controlling the development of frontages. These powers embrace all land within 220 yards from the middle of any road, classified or unclassified. (Excerpt from the Quarterly News Letter of the Pedestrian's Association, April, 1935, pp. 5 and 6; quoted by the Safety and Traffic Engineering Department, American Automobile Association, June 28, 1935)

STREET TRAFFIC BIBLIOGRAPHY

A letter from Maxwell Halsey, Assistant Director, Bureau for Street Traffic Research (formerly the Albert Russel Erskine Bureau) states that the Bureau has available copies of the "Street Traffic Bibliography", which may be obtained free by Members of the Institute upon request.

"BUS FACTS"

The ninth annual volume of Bus Facts, published by the National Association of Motor Bus Operators, has just been issued. The volume is a reference book of facts and figures on the operation of Motor Busses in the United States.